

What is claimed is:

1. An ion selective monoelectrode complex having,  
5 on a common non-electroconductive support sheet, plural  
ion selective monoelectrodes each of which is composed of  
an electrode composite comprising, in order, a silver  
metal layer, a silver halide layer, an electrolytic mate-  
10 rial layer, and an ion selective membrane, and an elec-  
troconductive terminal which is electrically connected to  
the silver metal layer and which has an exposed surface,  
under the condition that the ion selective monoelectrodes  
are aligned, without electric contact with each other,  
15 along an imaginary line bridging the electrode composite  
and the electroconductive terminal.

2. The ion selective monoelectrode complex of  
claim 1, wherein one ion selective monoelectrode has an  
ion selective membrane which is responsive to one ionic  
20 species, while other one or more ion selective monoelect-  
rodes have an ion selective membrane which is responsive  
to other ionic species.

3. The ion selective monoelectrode complex of  
25 claim 1, which comprises three or more ion selective  
monoelectrodes that are aligned without electric contact  
with each other, along an imaginary line bridging the  
electrode composite and the electroconductive terminal.

30 4. The ion selective monoelectrode complex of  
claim 1, wherein the ion selective monoelectrodes are  
insulated from each other with an electrolytic material  
extending from the electrolytic material layer of the  
monoelectrode on one side.

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5. A process for preparing the ion selective monoelectrode complex of claim 1, which comprises the steps of:

5 making one or more linear scratches on a longitudinal non-electroconductive sheet having thereon a silver metal layer under the condition that the scratches are extended in the longitudinal direction and reach the non-electroconductive sheet;

10 covering the silver metal layer with a polymer material layer in the form of a stripe on one side of each linear scratch, leaving uncovered area in the form of a stripe;

15 halogenating the silver metal layer in the uncovered area to form a silver halide layer on the surface of the silver metal layer in the uncovered area;

forming an electrolytic material layer on the polymer material layer and the silver halide layer;

20 peeling the polymer material layer off from the silver metal layer to remove the polymer material layer and the electrolytic material layer placed on the polymer material layer, simultaneously;

placing an ion selective membrane on an electrolytic material layer formed on the silver halide layer;

and

25 cutting thus processed longitudinal sheet in the direction traversing the longitudinal sheet to give a plurality of the ion selective monoelectrode complexes.

30 6. A process for preparing the ion selective monoelectrode complex of claim 1, which comprises the steps of:

35 covering a longitudinal non-electroconductive sheet having thereon a silver metal layer with two or more polymer material layers in the form of a stripe in the longitudinal direction, leaving uncovered area in the form of a stripe;

making one or more linear scratches on the silver metal layer in the vicinity of the polymer material layers under the condition that the scratches are extended in the longitudinal direction and reach the non-electro-  
5 conductive sheet;

halogenating the silver metal layer in the uncovered area to form a silver halide layer on the surface of the silver metal layer in the uncovered area;

forming an electrolytic material layer on the polymer material layer and the silver halide layer;  
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peeling the polymer material layer off from the silver metal layer to remove the polymer material layer and the electrolytic material layer placed on the polymer material layer, simultaneously;

15 placing an ion selective membrane on an electrolytic material layer formed on the silver halide layer;

and

cutting thus processed longitudinal sheet in the direction traversing the longitudinal sheet to give a  
20 plurality of the ion selective monoelectrode complexes.

7. An ionic activity measuring apparatus comprising a pair of ion selective monoelectrode complex of claim 1, which are arranged in parallel without electric  
25 contact with each other, a non-electroconductive covering element having openings which is placed on the ion selective membranes of the complexes to receive and keep an applied liquid sample to bring it into contact with an ion selective membrane of each ion selective mono-  
30 electrode, and bridge elements placed on the covering element to connect one opening placed on an ion selective membrane of one ion selective monoelectrode complex with other opening placed on an ion selective membrane of another ion selective monoelectrode complex.

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8. An ion selective monoelectrode complex having, on a common non-electroconductive support sheet, plural ion selective monoelectrodes each of which is composed of an electrode composite comprising, in order, a silver metal layer, a silver halide layer, an electrolytic material layer, and an ion selective membrane, all silver metal layers being electrically connected with each other, and an electroconductive terminal which is electrically connected to one of the silver metal layers and which has an exposed surface, under the condition that the ion selective monoelectrodes are aligned along an imaginary line bridging the electrode composite and the electroconductive terminal.

9. The ion selective monoelectrode complex of claim 8, wherein one ion selective monoelectrode has an ion selective membrane which is responsive to one ionic species, while other one or more ion selective monoelectrodes have an ion selective membrane which is responsive to other ionic species.

10. The ion selective monoelectrode complex of claim 8, in which the electroconductive terminal is placed on one end of the monoelectrode complex.

11. A process for preparing the ion selective monoelectrode complex of claim 8, which comprises the steps of:

covering a silver metal layer placed on a longitudinal non-electroconductive sheet with a polymer material layer in the form of a stripe on a side of the sheet, leaving uncovered area in the form of a stripe;

halogenating the silver metal layer in the uncovered area to form a silver halide layer on the surface of the silver metal layer in the uncovered area;

forming an electrolytic material layer on the poly-

mer material layer and the silver halide layer;

peeling the polymer material layer off from the silver metal layer to remove the polymer material layer and the electrolytic material layer placed on the polymer material layer, simultaneously;

placing an ion selective membrane on an electrolytic material layer formed on the silver halide layer;

and

cutting thus processed longitudinal sheet in the direction traversing the longitudinal sheet to give a plurality of the ion selective monoelectrode complexes.

12. An ionic activity measuring apparatus comprising a pair of ion selective monoelectrode complex of claim 8, which are arranged in parallel without electric contact with each other, a non-electroconductive covering element having openings which is placed on the ion selective membranes of the complexes to receive and keep an applied liquid sample to bring it into contact with an ion selective membrane of each ion selective monoelectrode, and bridge elements placed on the covering element to connect one opening placed on an ion selective membrane of one ion selective monoelectrode complex with other opening placed on an ion selective membrane of another ion selective monoelectrode complex.